S. Dayton Dump

ISSUE 1: Vapor Intrusion and Acceptable Controls

Subslab soil gas – TCE, methane, some benzene:

10 out of 14 buildings - subslab soil gas unaccpetable risk. Potential risks over 10-3/HI=10 at 8 buildings. Confirmed indoor air risk at 2 buildings. 3 or 4 will be mitigated.

FS options: Prevent subslab conreduce subslab soil gas concentrations below potential risk levels:

1. Continued sampling
2. Subslab depressurization systems
3. PRPs' passive venting system
4. Active landfill gas (LFG) control system below business areas

- VOCs not going anywhere, in all media throughout landfill.
- Active LFG control may be more reliable and cost effective.
- System gridded across business areas
- Added benefit of removing VOC mass
- Could help address principal threat waste and potential hot spots, and satisfy statutory preference for treatment.
- Easier and more cost effective to install before cap. Deeper system would remove more VOCs.

ISSUE 2: Hot Spot Identification

OEPA – 3 areas require hot spot investigation:

1. 5 Valley Asphalt and 1 CRA drums found and removed. Saturated; TCE 64 mg/Kg, PCB 75 mg/Kg, BTEX 961 mg/Kg BTEX, TCLP lead, cadmium and benzene. Crushed drums and drum carcasses left in sidewalls.
2. Dayton Recycling UST removal – waste oil, gasoline, diesel and kerosene. Methane 28% by volume in gas probe and 6.5% by volume under building; benzene 14,000 ug/m3 in soil gas and below building at levels that could pose potential risk of 1 x 10-5 in indoor air; benzene in indoor air below risk levels.
3. Custom Deliveries diesel UST removal - TCE in soil gas at 56,000 ug/m3 and below building at 30,000 ug/m3. Confirmed in indoor air at HI=3.

Hot Spot Investigation Not Warranted

- VOCs in non-drummed waste above principal threat concentrations (> 1 x 10-3/HI=10) in 7 out of 25 locations (28%) across 55-acre OU1 (TCE/PCE in 4 out of 25 locations – 16%).
- VOCs in soil gas, subslab and groundwater above > 1 x 10-3/HI=10 concentrations 16 other locations - *as indication of potential principal threat waste since landfill materials not sampled.*
- Metal detection anomalies across most of OU1.
- *"Uncertainty by itself does not call into question the containment approach. However, containment remedies must be designed to take into account the possibility that hot spots are present..."*
- Minimize infiltration, active LFG control throughout business areas (prevent risk and reduce VOC mass), and compliance monitoring to determine where and to what extent groundwater contaminants moving beyond waste management area.

ISSUE 3: Extent of Groundwater Contamination and Practicability of Groundwater Remediation and Long-Term Controls

- Groundwater at and close to OU1 boundary contaminated with VOCs.
- Upper groundwater: TCE (260 ug/L south; 70 ug/L north)
- Lower groundwater: cis-1,2 DCE (650 ug/L), VC (130 ug/L), and benzene (1100 ug/L).
- Groundwater contamination extends to at least 200 ft-bgs (VC 29 ug/L – last sample. Shale bedrock 250-275 ft.
- TCE found mostly on-Site, confirmed in off-Site VAS at 12 ug/L.
- TCE degradation products found in deeper side or upgradient groundwater under DPL. May be from historic pumping, however, landfill materials also at DPL and GM site across river.
- Upper groundwater affected by river. Changing flow directions, sometimes gaining stream, sometimes losing and pushing contaminants deeper into aquifer.
- Deeper groundwater not affected by river. Flows south. VC confirmed in off-Site groundwater south of site in VAS at 17 ug/L.
- No basis to conclude groundwater contamination could not be contained at OU1 boundary (e.g., through air sparging or pump and treat).
- Deeper aquifer open sand and gravel, no clay, no fractured bedrock, no indication DNAPL present (but OU2 investigation not completed).